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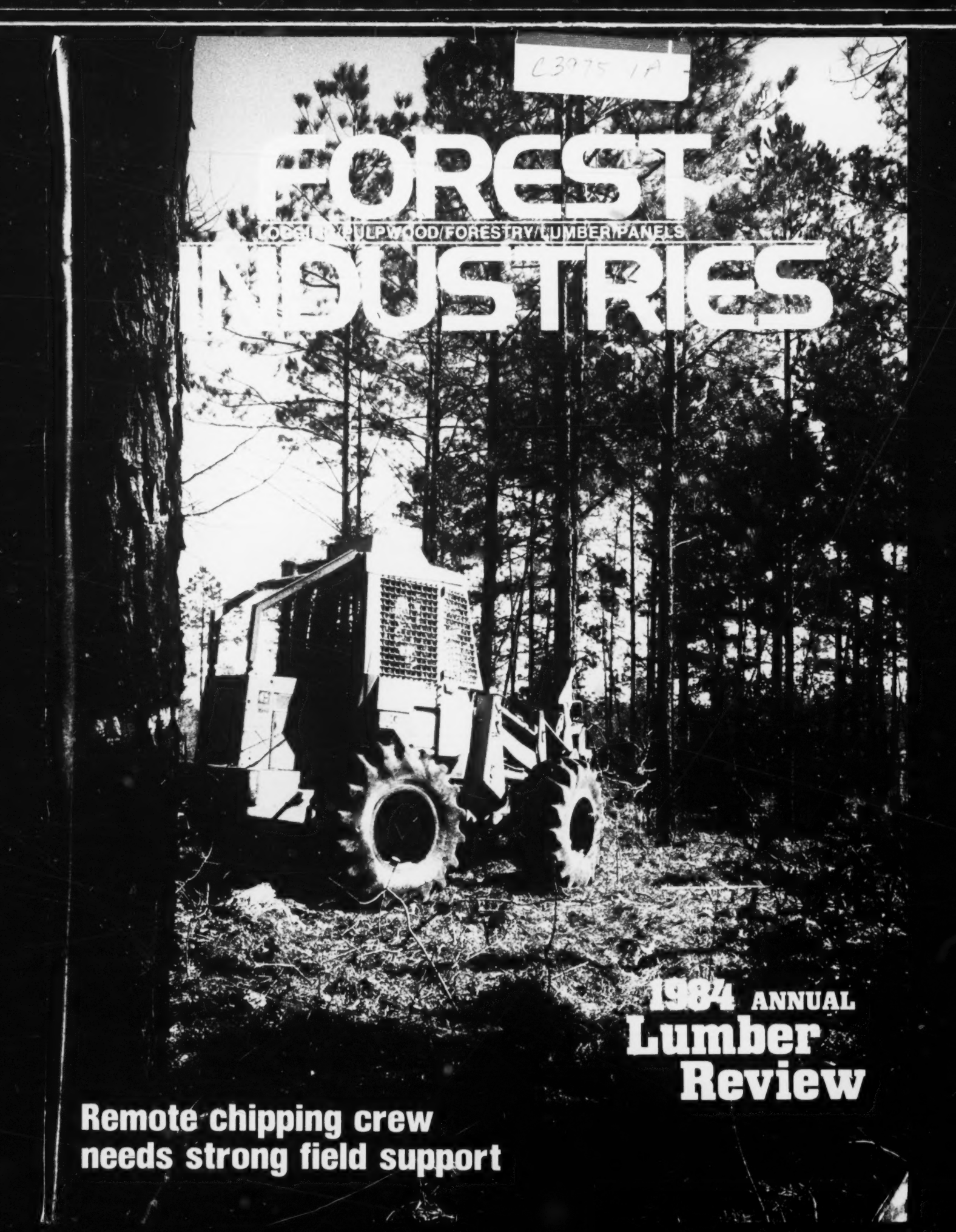

1984 ANNUAL Lumber Review

Remote chipping crew needs strong field support

1984 Volume 111 Number 7

JULY

Lumber Review

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In this year's Annual Lumber Review, we return to a listing of the top lumber producers in the U.S. and Canada. Both '82 and '83 production figures are given

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Last year's housing recovery in the U.S. brought a smart rebound in North America's lumber production. Sawmillers now have to ask themselves if the 'party' is about over

Lumber firms enjoyed '83, but '84 outlook is dimmer

San Francisco, California

When reporting on the lumber industry's smart rebound last year from the recession, it hardly seems fair to note the chance that the party may be over. But with interest rates rising and lumber prices weak, it is at least possible that 1984-85 won't be as exciting as 1983.

Brought back by popular demand, FOREST INDUSTRIES' review of North America's top lumber-cutting companies shows that most of them had plenty to smile about last year. A 70% jump in U.S. housing starts spurred a remarkable rebound in lumber production.

Both American and Canadian sawmillers benefited. According to the National Forest Products Assn., U.S. sawmills churned out 31.4 billion bd ft last year (hardwood and softwood combined), a jump of 4.5 billion bd ft or 16.7% over 1982's depressed figures. Canada's increase was even more notable: 29%.

Canadian output rose from 15.75 billion bd ft in 1982 to 20.37 billion last year; the increase of 4.6 billion bd ft outpaced the U.S. The national figures were compiled by Statistics Canada.

Rounding up the production figures from the top lumber producers in both countries was, as always, a monumental task. It began several months ago when we mailed questionnaires to 447 leading lumber producers in the U.S. and Canada. Companies that failed to respond were re-polled by mail. Then, if necessary, we hounded them by telephone.

Persistence paid off: we finally got figures from 408 companies. In the listing that follows, the 408 companies are ranked according to '83 production.

Only eight companies refused to give figures. Another 18 firms had shut down, gone out of business or been bought out since FOREST INDUSTRIES did its last complete survey in 1982. Eight more names on our list turned out to be divisions of other companies, so their totals are included with their parent firms'. Only five firms couldn't be tracked down.

Companies responding to our survey cut 93% of the lumber the NFPA says was produced in the United States last year—nearly 29.22 billion bd ft.

In Canada, our survey picked up 75% of Statistics Canada's figure, or 15.22 billion ft.

Overall, this survey accounts for about 86% of the lumber produced in North America last year.

We tried to include all the major North American producers in our survey, but we are certain we missed some. We invite anyone who spots omissions or other errors to write to us.

We brought this exhaustive (and exhausting) survey back because so many readers protested when we had to drop it last year—a casualty of the recession. To make up for last year's missing figures, we asked companies to give us 1982 and 1983 production figures. Both are included in the listing that follows.

Anyone who expected a big surprise from the survey after a year's absence will be disappointed. Weyerhaeuser Co. is still Number One, and the far-flung firm's 33 mills still cut far more lumber (3.12 billion bd ft) than second-place Georgia-Pacific's 37 mills (1.8 billion). Louisiana-Pacific Corp. remained in third place with 1.68 billion bd ft cut in 66 sawmills.

In Canada, however, there has been a significant shakeup. MacMillan Bloedel Ltd., which held fourth place in North American lumber production in 1981, has dropped to ninth. The top Canadian producer last year was Canadian Forest Products (Canfor), which came in at fifth behind Champion International.

Although the top four producers are American, the Canadians showed their strength by taking most of the remaining spots in the top 15. Seven Canadian firms are clustered between the fifth and 15th spots on the list.

TABLE 1—United States Lumber Production

	Softwood Lumber Production, By Regions						
Year	Southern Pine	Douglas Fir	Western Pine	California Redwood	Softwood Other	Total Softwood Production	Total Softwood Consumption
1974	6.921	7.777	8.973	1.895	1.627	27.193	32.082
1975	6.967	7.134	8.445	1.690	1.475	25.711	30.308
1976	7.598	8.322	9.789	2.001	1.633	29.343	35.753
1977	8.239	8.796	10.309	2.000	1.643	30.987	40.079
1978	8.267	8.845	10.033	1.902	1.852	30.899	41.435
1979	8.211	8.427	9.780	1.818	1.915	30.151	39.353
1980	6.880	6.815	7.613	1.589	1.903	24.800	32.499
1981	6.143	6.270	7.147	1.452	1.745	22.757	30.161
1982	6.186	5.783	6.803	1.433	1.678	21.883	29.388
1983	6.637	7.646	8.548	1.566	1.361	25.758	35.695

Figures in recent years subject to revision.

U.S. housing starts, as usual, pulled up lumber production—especially of softwood. As starts jumped from 1 million in 1982 to 1.7 million last year, U.S. lumber consumption rose almost 20% to 41.34 billion bd ft. Canada supplied most of the difference between the U.S.'s production of 31.4 billion and consumption of 41.34 billion.

While Canadians were maintaining (or slightly increasing) their share of the American lumber market, another beleaguered segment of the industry made a comeback. Western U.S. mills sawed nearly 69% of the nation's softwood lumber in 1983. This brings the West's share back to the level it held in the mid-to-late 1970s.

Southern sawmills saw their share of U.S. lumber production dip from 28.3% in 1982 to 25.8% last year.

Percent of softwood lumber production

	South	*West*
1974	25.5%	68.6%
1975	27.1%	67.2%
1976	25.9%	68.5%
1977	26.6%	68.1%
1978	26.8%	67.3%
1979	27.2%	66.4%
1980	27.7%	64.6%
1981	27.0%	65.3%
1982	28.3%	64.1%
1983	25.8%	68.9%

Figures above were calculated from NFPA reports. "South" refers to production volumes from the southern pine region; "West" is a combination of coastal (mainly Douglas fir), inland (mainly pine) and California redwood regions.

In Canada, the division is essentially British Columbia versus everyone else. The West Coast province produced 64% of Canada's lumber last year. Its output of 13 billion bd ft was up nearly 3 billion feet (29%) from depressed 1982 levels.

TABLE 2—Canadian Lumber Production Softwood and Hardwood, 1974-1983 (billion bd ft)

Year	B.C. Coast	B.C. Interior	Total B.C.	East of Rockies	Total Canada
1974	3.405	5.378	8.783	4.763	13.546
1975	2.504	4.965	7.469	3.851	11.320
1976	3.988	6.757	10.745	4.779	15.524
1977	4.499	7.539	12.038	5.629	17.667
1978	4.803	7.742	12.545	6.432	18.977
1979	4.657	7.861	12.518	6.480	18.998
1980	4.252	7.727	11.980	6.923	18.903
1981	3.458	6.966	10.424	6.473	16.897
1982	3.170	6.939	10.109	5.887	15.996
1983	4.140	8.903	13.043	7.328	20.371

Source: Statistics Canada

The 1983 figure was a record, surpassing the 12.54 billion feet cut in 1978. Production jumped in both coastal and interior regions, but the interior increased its lead over coastal sawmills. The once-dominant coastal region cut only 31.5% of B.C.'s lumber last year. Since prices didn't keep up with volumes, the bottom line was still disappointing for many B.C. sawmillers.

According to B.C.'s Council of Forest Industries (COFI), 56% of B.C. lumber was sold in the United States last year—more than double the amount sold in Canada. (It's worth noting that U.S. housing starts were about 10 times more than Canada's.) Nearly half of this—3.56 billion bd ft—was shipped to the North Central and South Atlantic regions of the U.S.

From all of Canada, the U.S. bought nearly 11.95 billion bd ft of softwood lumber last year. This is 97% of all U.S. lumber imports.

American lumber exports were a far less significant factor. According to the NFPA, U.S. lumber producers sold 2.27 billion bd ft abroad last year. Of this, 664 billion bd ft (29%) went to Canada. As a whole, lumber exports rose 12.3% from 1982 to 1983, while exports to Canada jumped 58.5%.

While interest rates remained reasonable, 1984 recorded a roaring rate of homebuilding. In February, the rate actually exceeded 2.2 million units a year, once all the seasonal adjustments were made. Even March's stormy weather put only a momentary crimp in the rate.

But when mortgage interest rates climbed over 14% in April and May, the rate of home building started down. Most analysts predict 1984 will end with more than 1.7 million new homes and apartments started—still slightly higher than 1983's total. But most also expect a significant drop next year, to around 1.5 million.

Looking far ahead, analysts figure the '80s and early '90s should be reasonably good for the home building industry, with starts averaging 1.5 million to 1.7 million a year.

The key to housing starts—and the forest industry's prosperity—is interest rates. No one is willing to predict them that far ahead. ■

—The Editors

and Consumption, 1974-1983 (billion bd ft)

Hardwood Lumber Production, By Regions			Total Hardwood Production	Total Hardwood Consumption	Total Lumber Production	Total Lumber Consumption
Southern	Appalachian	Other				
3.265	1.268	2.371	6.904	6.784	34.097	38.866
2.761	1.109	2.002	5.872	5.791	31.583	36.099
3.033	1.171	2.213	6.417	6.441	35.760	42.194
3.063	1.207	2.410	6.680	6.890	37.667	46.969
3.242	1.228	2.527	6.997	6.997	37.896	48.432
3.452	1.261	2.581	7.294	6.939	37.445	46.292
3.314	1.211	2.533	7.058	6.272	31.858	38.771
3.074	1.309	2.452	6.835	6.479	29.592	36.640
2.362	0.894	1.821	5.077	5.108	26.960	34.496
3.164	0.910	1.647	5.721	5.644	31.479	41.339

Source: National Forest Products Assn.

Comparative data — Top 100 companies — 1974-1983

(Millions of bd ft, hardwood and softwood; includes U.S. and Canada)

Year	Total volume reported by Top 100 Co.'s	Number mills in Top 100	Total volume by year's top producer	Cutoff volume of year's 100th producer	Co.'s producing more than 1 billion bd ft
1974	24,652	589	2,541	65.470	3
1975	22,023	633	2,530	56.500	2
1976	27,978	639	2,702	77.333	4
1977	30,988	645	2,806	85.282	5
1978	32,142	629	2,662	90.634	5
1979	31,599	634	2,955	91.300	4
1980	28,037	641	2,889	80.000	4
1981	26,956	657	2,744	74.580	3
1982	26,043	603	2,147	71.000	4
1983	34,305	610	3,123	98.058	5

Leading lumber producers, U.S. and Canada

(Figures given in bd ft, hardwood and softwood combined)
(Companies ranked according to data received by FOREST INDUSTRIES)

	Company & number of mills	Headquarters	'82 Output	'83 Output
1.	Weyerhaeuser Co. (33 mills)	Tacoma, Wash.	2,846,000,000	3,123,000,000
2.	Georgia-Pacific Corp. (37)	Atlanta, Ga.	1,406,639,000	1,802,308,000
3.	Louisiana-Pacific Corp. (66)	Portland, Ore.	1,310,000,000	1,680,000,000
4.	Champion International Corp. (23)	Stamford, Conn.	1,012,000,000	1,272,000,000
5.	Canfor Corp. (14)	Vancouver, B.C.	768,200,000	1,164,600,000
6.	British Columbia Forest Products Ltd. (10)	Vancouver, B.C.	629,000,000	863,000,000
7.	West Fraser Mills Ltd. (6)	Quesnel, B.C.	730,967,000	846,585,000
8.	Boise Cascade Corp. (18)	Boise, Idaho	635,000,000	844,000,000
9.	MacMillan Bloedel Ltd. (10)	Vancouver, B.C.	635,000,000	822,000,000
10.	International Paper Co. (13)	Dallas, Texas	627,500,000	760,350,000
11.	Weldwood of Canada Ltd. (10)	Vancouver, B.C.	521,000,000	668,000,000
12.	Whonnock Industries Ltd. (7)	Vancouver, B.C.	530,000,000	641,000,000
13.	Northwood Pulp and Timber Ltd. (4)	Prince George, B.C.	340,749,000	608,138,000
14.	St. Regis Corp. (9)	Tacoma, Wash.	447,364,000	583,031,000
15.	Sierra Pacific Industries (8)	Redding, Calif.	424,193,000	556,445,000
16.	Pope and Talbot Inc. (5)	Portland, Ore.	355,000,000	517,000,000
17.	Simpson Timber Co. (6)	Seattle, Wash.	422,000,000	516,000,000
18.	Balfour Forest Products Inc. (6)	Prince George, B.C.	273,000,000	496,000,000
19.	Roseburg Lumber Co. (5)	Roseburg, Ore.	290,000,000	480,000,000
20.	Diamond International Corp. (7)	Red Bluff, Calif.	245,707,000	464,991,000
21.	Crown Forest Industries Ltd. (6)	Vancouver, B.C.	383,930,000	456,994,000
22.	Westar Timber Ltd., (formerly BC Timber Ltd.) (6)	Vancouver, B.C.	300,966,000	447,753,000
23.	Potlatch Corp. (12)	Lewiston, Idaho	399,832,000	434,616,000
24.	Publishers Paper Co. (4)	Lake Oswego, Ore.	149,915,000	434,588,000
25.	Plum Creek Timber Co. Inc. (13)	Seattle, Wash.	228,098,000	415,922,000
26.	Doman Industries Ltd. (5)	Duncan, B.C.	335,000,000	397,000,000
27.	Normick Perron Inc. (6)	La Sarre, Que.	338,800,000	358,500,000
28.	Continental Group Inc. (9)	Savannah, Ga.	257,000,000	352,000,000
29.	Willamette Industries Inc. (9)	Portland, Ore.	230,000,000	315,000,000
30.	Eurocan Pulp and Paper Co. Ltd. (3)	Kitimat, B.C.	230,000,000	299,000,000
31.	Bohemia Inc. (7)	Eugene, Ore.	264,158,000	295,000,000
32.	Southwest Forest Industries (9)	Phoenix, Ariz.	163,636,000	281,964,000
33.	W-I Forest Products Inc. (7)	Wilsonville, Ore.	185,000,000	280,000,000
34.	Donohue Inc. (4)	Quebec, Que.	147,032,000	278,997,000
35.	Union Camp Corp. (9)	Savannah, Ga.	376,500,000	273,600,000
36.	Crestbrook Forest Industries Ltd. (3)	Cranbrook, B.C.	182,019,000	272,674,000
37.	Hammermill Paper Co. (12)	Erie, Pa.	182,490,000	267,655,000
38.	J. D. Irving Ltd. (8)	Saint John, N.B.	200,000,000	250,000,000
39.	RSG Forest Products Inc. (3)	Kalama, Wash.	202,038,233	240,511,382
40.	Georgia Kraft Co., Woodkraft Division (4)	Peachtree City, Ga.	180,000,000	240,000,000
41.	Gilman Paper Co. (4)	Saint Marys, Ga.	200,000,000	240,000,000
42.	Crown Zellerbach Corp. (4)	San Francisco, Calif.	245,000,000	234,000,000
43.	Pacific Forest Products (3)	Victoria, B.C.	130,000,000	230,000,000
44.	Coastal Lumber Co. (15)	Weldon, N.C.	268,108,000	227,500,000
45.	Scott Paper Co. (8)	Philadelphia, Pa.	160,197,748	222,673,077

	Company & number of mills	Headquarters	'82 Output	'83 Output
46.	Evans Products Co. (3)	Portland, Ore.	147,887,000	222,101,000
47.	Stinson Lumber Co. (2)	Portland, Ore.	150,000,000	220,000,000
48.	Slocan Forest Products Ltd. (2)	Richmond, B.C.	135,000,000	206,200,000
49.	Great Northern Nekoosa Corp. (4)	Stamford, Conn.	161,000,000	198,000,000
50.	Clearwater Timber Products (3)	Edmonton, Alta.	150,000,000	190,000,000
51.	Mountain Fir Lumber Co. Inc. (4)	Salem, Ore.	134,764,000	187,807,000
52.	Pacific Lumber and Shipping Co. (3)	Seattle, Wash.	113,737,421	187,273,922
53.	Finlay Forest Industries Ltd.	Mackenzie, B.C.	134,202,000	186,009,000
54.	The Pas Lumber Co. Ltd. (1)	Prince George, B.C.	176,645,000	185,657,000
55.	Wickes Forest Industries (4)	Dinuba, Calif.	124,172,000	183,194,000
56.	Eel River Sawmills Inc. (3)	Fortuna, Calif.	140,916,000	181,947,000
57.	Abitibi-Price Inc. (4)	Toronto, Ont.	140,581,000	180,642,000
58.	Idaho Forest Industries (4)	Coeur 'D Alene, Idaho	110,509,000	173,568,000
59.	Tahsis Co. Ltd. (2)	Vancouver, B.C.	130,000,000	168,000,000
60.	Timber Realization Co. (6)	Jackson, Miss.	199,267,658	165,341,100
61.	E.B. Eddy Forest Products Ltd. (3)	Ottawa, Ont.	144,791,000	165,160,000
62.	Federal Paper Board Co. Inc. (2)	Riegelwood, N.C.	115,000,000	165,000,000
63.	Saucier Forest Products Ltd. (2)	Comtois, Que.	149,350,000	163,180,000
64.	Rustad Bros. and Co. Ltd. (1)	Prince George, B.C.	138,000,000	163,000,000
65.	Tolko Industries Ltd. (2)	Vernon, B.C.	136,700,000	161,400,000
66.	Forex Inc. (6)	Val D'Or, Que.	140,000,000	145,000,000
67.	Ainsworth Lumber Co. Ltd. (2)	Hundred Mile House, B.C.	135,000,000	145,000,000
68.	Pinette and Therrien Mills Ltd. (2)	Williams Lake, B.C.	128,129,000	144,229,000
69.	Domtar Forest Products (2)	Montreal, Que.	65,034,000	143,129,000
70.	Manville Forest Products (2)	West Monroe, La.	81,000,000	141,000,000
71.	Jacobson Bros. Forest Products (1)	Williams Lake, B.C.	95,000,000	140,000,000
72.	Pacific Lumber Co. (3)	San Francisco, Calif.	119,470,000	138,640,000
73.	WTD Industries (3)	Portland, Ore.	43,126,000	137,054,000
74.	Lignum Ltd. (1)	Vancouver, B.C.	118,937,000	135,125,000
75.	American Forest Products Co. (3)	San Francisco, Calif.	110,000,000	131,000,000
76.	Materiaux Blanchet Inc. (2)	Saint Pamphile, Que.	120,000,000	130,000,000
77.	Carrier Lumber Ltd. (1)	Prince George, B.C.	62,000,000	127,000,000
78.	Kirby Forest Industries Inc. (2)	Houston, Texas	116,833,000	125,440,000
79.	Temple-Eastex (2)	Diboll, Texas	106,000,100	122,100,000
80.	Cipa Industries Ltd. (2)	Vancouver, B.C.	134,094,000	121,477,000
81.	Summit Timber Co. (1)	Darrington, Wash.	95,155,455	121,399,210
82.	Owens-Illinois Inc. (3)	Toledo, Ohio	108,500,000	120,000,000
83.	S&R Sawmills (3)	Surrey, B.C.	87,000,000	119,748,000
84.	Revelstoke Companies Ltd. (4)	Calgary, Alta.	69,000,000	118,000,000
85.	Rosboro Lumber Co. (2)	Springfield, Ore.	85,310,000	115,013,000
86.	TMA Forest Products (4)	Andalusia, Ala.	91,056,000	111,253,000
87.	Joe N. Miles and Sons Inc. (3)	Lumberton, Miss.	70,000,000	110,000,000
88.	Bowater Inc. (2)	Albertville, Ala.	81,000,000	110,000,000
89.	Willamina Lumber Co. (2)	Portland, Ore.	100,483,000	109,783,000
90.	Lakeland Mills Ltd. (1)	Prince George, B.C.	93,065,000	109,596,000
91.	Seneca Sawmill Co. (1)	Eugene, Ore.	49,020,000	109,517,000
92.	Federated Cooperatives Ltd. (2)	Canoe, B.C.	83,860,000	108,332,000
93.	Medford Corp. (2)	Medford, Ore.	89,117,000	105,808,000
94.	Fort Apache Timber Co. (2)	Whiteriver, Ariz.	87,661,000	102,701,000
95.	ITT Rayonier Inc. (5)	Stamford, Conn.	88,268,000	102,626,000
96.	Cattermole Timber Ltd. (2)	Fort Nelson, B.C.	86,000,000	102,000,000
97.	Consolidated-Bathurst Inc. (4)	Montreal, Que.	58,810,000	99,560,000
98.	F. H. Stoltz Land and Lumber Co. (3)	Columbia Falls, Mont.	56,379,089	99,500,000
99.	Northside Lumber Co. (3)	Philomath, Ore.	71,000,000	98,500,000
100.	Harwood Products (2)	Willits, Calif.	75,459,000	98,058,000
101.	American Timber Co. (1)	Olney, Mont.	59,201,315	93,387,441
102.	Hanel Lumber Co. Inc.	Hood River, Ore.	52,900,000	91,815,000
103.	Westvaco Development Corp. (2)	Summerville, S.C.	75,000,000	90,000,000
104.	Kaibab Industries (3)	Phoenix, Ariz.	81,699,000	89,933,000
105.	Brazier Forest Products Inc. (3)	Molalla, Ore.	58,840,000	89,778,000
106.	Bennett Lumber Products Inc. (2)	Princeton, Idaho	64,665,596	88,533,106
107.	Sun Studs Inc. (1)	Roseburg, Ore.	82,000,000	86,500,000
108.	Eugene F. Burrill Lumber Co. (1)	Medford, Ore.	70,289,000	84,276,000
109.	Rogge Lumber Co. (2)	Wallowa, Ore.	44,890,000	83,570,000
110.	Apollo Forest Products Ltd. (1)	Fort Saint James, B.C.	59,352,108	82,461,071
111.	Edward Hines Lumber Co.	Chicago, Ill.	242,529,000	82,074,000
112.	Manke Lumber Co. Inc. (2)	Tacoma, Wash.	84,263,135	80,646,659
113.	Collins Pine Co. (2)	Portland, Ore.	73,222,000	80,140,000
114.	Anthony Timberlands Inc. (2)	Bearden, Ark.	59,541,000	78,555,000
115.	Northwest Hardwoods (2)	Portland, Ore.	73,800,000	77,800,000
116.	Kimberly-Clark Corp. (2)	Coosa Pines, Ala.	49,386,000	77,085,000
117.	Western Construction and Lumber Co. (1)	Edmonton, Alta.	50,000,000	76,000,000
118.	Duke City Lumber Co. Inc. (5)	Albuquerque, N.M.	64,000,000	75,000,000
119.	Scierie Saint-Michel Inc. (2)	Saint-Michel, Que.	50,000,000	75,000,000
120.	P&M Cedar Products Inc. (4)	Stockton, Calif.	—	75,000,000

Leading lumber producers, U.S. and Canada

	Company & number of mills	Headquarters	'82 Output	'83 Output
121.	Allied Forest Products Inc. (4)	Portland, Ore.	62,000,000	74,000,000
122.	The Langdale Co. (2)	Valdosta, Ga.	49,089,414	72,101,187
123.	Longleaf Forest Products (1)	Portland, Ore.	68,000,000	72,000,000
124.	La Scierie Taschereau (2)	Taschereau, Que.	80,000,000	70,000,000
125.	Ellingson Lumber Co. (1)	Baker, Ore.	43,158,000	67,053,000
126.	Modoc Lumber Co. (1)	Klamath Falls, Ore.	56,489,000	65,865,000
127.	Mayr Bros. Lumber Co. (2)	Hoquiam, Wash.	65,430,000	65,430,000
128.	Gregory Industries Ltd. (2)	Vancouver, B.C.	70,000,000	65,000,000
129.	Deltic Farm and Timber Co. Inc. (2)	El Dorado, Ark.	19,374,000	64,887,000
130.	Raven Lumber Ltd. (1)	Campbell River, B.C.	39,196,666	64,200,000
131.	Great West Timber Ltd. (1)	Thunder Bay, Ont.	57,500,000	64,000,000
132.	Maibec Industries (2)	Sainte Foy, Que.	60,000,000	64,000,000
133.	Brand-S Corp. (1)	Corvallis, Ore.	42,000,000	63,000,000
134.	Scotch Lumber Co. (1)	Fulton, Ala.	61,000,000	63,000,000
135.	Avison Lumber Co. (4)	Molalla, Ore.	52,884,000	62,495,000
136.	Harrigan Lumber Co. Inc. (1)	Monroeville, Ala.	43,041,864	61,726,052
137.	G. W. Martin Lumber Ltd. (3)	Harcourt, Ont.	40,000,000	60,000,000
138.	Scierie Des Outardes (1)	Hauterive, Que.	—	60,000,000
139.	New South Forest Industries (1)	Conway, S.C.	52,327,000	58,952,000
140.	Chesapeake Corp. (5)	West Point, Va.	43,500,000	58,500,000
141.	Bond Bros. Sawmill Ltd. (1)	Vanderhoof, B.C.	43,500,000	58,000,000
142.	Schmidbauer Lumber Co. (2)	Eureka, Calif.	35,433,000	57,690,000
143.	Fort Hill Lumber Co. (1)	Portland, Ore.	—	57,022,907
144.	L&M Lumber Ltd. (1)	Vanderhoof, B.C.	47,267,363	56,139,198
145.	Davidson Industries Inc. (2)	Mapleton, Ore.	34,700,000	56,025,000
146.	The Daaquam Lumber Ltd. (2)	Montmagny, Que.	35,000,000	56,000,000
147.	Nova Lumber Co. Ltd. (1)	N. Vancouver, B.C.	37,000,000	56,000,000
148.	Dubreuil Bros. Ltd. (1)	Dubreuilville, Ont.	52,000,000	56,000,000
149.	Gulf Lumber Co. Inc. (1)	Mobile, Ala.	52,000,000	55,000,000
150.	Fraser Inc. (2)	Edmunston, N.B.	70,000,000	55,000,000
151.	Gerard Crete and Fils Inc. (1)	Proulxville, Que.	50,000,000	55,000,000
152.	Spruce Falls Power and Paper Co. Ltd. (1)	Kapuskasing, Ont.	50,000,000	55,000,000
153.	Bisson and Bisson Inc. (1)	Matagami, Que.	48,201,310	54,013,102
154.	Oregon Cedar Products Co. (2)	Springfield, Ore.	40,000,000	54,000,000
155.	Weiers Sawmill Ltd. (1)	Quesnel, B.C.	42,000,000	54,000,000
156.	Mill and Timber Products Ltd. (1)	Surrey, B.C.	51,198,286	53,748,530
157.	Saskatchewan Forest Products Corp. (2)	Prince Albert, Sask.	50,866,000	53,735,000
158.	Hankins Lumber Co. Inc. (1)	Grenada, Miss.	—	53,451,921
159.	United Sawmill Ltd. (1)	Hearst, Ont.	37,000,000	53,000,000
160.	Alaska Lumber and Pulp Co. Inc. (1)	Sitka, Alaska	58,029,000	52,833,000
161.	Gregory Timber Resources Inc. (2)	Glendale, Ore.	19,334,685	52,688,500
162.	Curt Bean Lumber Co. Inc. (2)	Amity, Ark.	52,000,000	52,000,000
163.	Warm Springs Forest Products Industries (1)	Warm Springs, Ore.	46,897,198	51,702,896
164.	Del-Cook Lumber Co. (3)	Adel, Ga.	48,304,162	51,475,378
165.	Zeidler Forest Industries Ltd. (3)	Edmonton, Alta.	34,780,000	51,446,000
166.	Sooke Forest Products Ltd. (1)	Victoria, B.C.	—	50,000,000
167.	Merritt Bros. Lumber Co. Inc. (1)	Priest River, Idaho	46,000,000	50,000,000
168.	Gorman Bros. Lumber Ltd. (1)	Westbank, B.C.	49,000,000	50,000,000
169.	Buchanan Hardwoods Inc. (5)	Selma, Ala.	—	50,000,000
170.	Anderson-Tully Co. (3)	Memphis, Tenn.	45,273,179	49,528,631
171.	Groot Logging Ltd. (1)	Smithers, B.C.	50,000,000	49,000,000
172.	Spalding and Son Inc. (1)	Grants Pass, Ore.	46,000,000	48,500,000
173.	Portac Inc. (1)	Tacoma, Wash.	32,331,469	48,126,392
174.	Welco Lumber (2)	Marysville, Wash.	48,000,000	48,000,000
175.	Levesque Lumber (Hearst) Ltd. (1)	Hearst, Ont.	49,192,497	47,999,549
176.	Dant and Russell Inc. (2)	Portland, Ore.	29,428,632	47,903,126
177.	H-O Lumber Products Inc. (3)	Chehalis, Wash.	37,529,000	47,208,000
178.	Raoul Guerette Inc. (2)	Degelis, Que.	40,000,000	47,000,000
179.	Sierra Forest Products (1)	Terra Bella, Calif.	45,000,000	47,000,000
180.	Galloway Lumber Co. Ltd. (1)	Galloway, B.C.	20,000,000	46,000,000
181.	Lake Region Lumber Co. (1)	Casco, Maine	36,548,283	45,428,699
182.	Buse Timber and Sales Inc. (1)	Everett, Wash.	37,010,000	45,111,000
183.	AT&N Lumber Service Inc. (3)	York, Ala.	40,000,000	45,000,000
184.	Aspen Planers Ltd. (1)	Merritt, B.C.	42,000,000	45,000,000
185.	Merrill and Ring Inc. (1)	Port Angeles, Wash.	37,788,644	44,685,030
186.	Douglas County Lumber Co. (1)	Roseburg, Ore.	32,599,000	44,606,000
187.	Balfour Lumber Co. Inc. (1)	Thomasville, Ga.	39,472,780	44,548,570
188.	Wetsel-Oviatt Lumber Co. (1)	Folsom, Calif.	37,781,890	43,878,190
189.	Gilchrist Timber Co. (1)	Gilchrist, Ore.	39,500,000	43,500,000
190.	White Swan Lumber Co. Inc. (1)	White Swan, Wash.	29,905,045	43,050,907
191.	Erickson Lumber Co. (1)	Marysville, Calif.	39,056,000	42,642,000
192.	Vanport Manufacturing Inc. (1)	Boring, Ore.	34,728,000	42,474,000

	Company & number of mills	Headquarters	'82 Output	'83 Output
193.	Prairie Wood Products (2)	Riddle, Ore.	26,792,000	42,471,000
194.	Swanson-Superior Forest Products Inc. (1)	Noti, Ore.	33,241,000	42,067,000
195.	Seaboard Lumber Co. (1)	Seattle, Wash.	20,000,000	42,000,000
196.	Pinecrest Lumber Co. (1)	Plumerville, Ark.	34,000,000	42,000,000
197.	Marys River Lumber Co. Inc. (2)	Corvallis, Ore.	36,000,000	42,000,000
198.	Michigan-California Lumber Co. (1)	Camino, Calif.	42,128,000	41,475,000
199.	Thompson Hardwoods Inc. (2)	Hazlehurst, Ga.	41,000,000	41,000,000
200.	Buchanan Lumber (1)	High Prairie, Alta.	24,383,447	40,787,848
201.	Paul Bunyan Lumber Co. (1)	Anderson, Calif.	25,805,000	40,328,000
202.	Boyd Lumber Corp. (2)	Sedro Woolley, Wash.	42,000,000	40,000,000
203.	Shuqualak Lumber Co. Inc. (1)	Shuqualak, Miss.	31,000,000	40,000,000
204.	Caffall Bros. Forest Products (2)	Wilsonville, Ore.	34,000,000	39,360,000
205.	Hudson Lumber Co. (2)	Anderson, Calif.	27,000,000	39,000,000
206.	Tolleson Lumber Co. Inc. (3)	Perry, Ga.	35,000,000	39,000,000
207.	Taylor Lumber Co. (1)	Beaverton, Ore.	18,000,000	38,100,000
208.	Mallette Lumber Inc. (1)	Timmins, Ont.	49,000,000	38,000,000
209.	Webster Lumber Co. (5)	Wayzata, Minn.	—	38,000,000
210.	C&D Lumber Co. (1)	Riddle, Ore.	19,237,000	37,161,000
211.	Pine Products Corp. (1)	Prineville, Ore.	33,000,000	37,000,000
212.	Navajo Forest Products Inc. (1)	Navajo, N.M.	41,600,000	36,500,000
213.	Snider Industries (1)	Marshall, Texas	34,000,000	36,000,000
214.	Ochoco Lumber Co. (2)	Prineville, Ore.	32,700,000	36,000,000
215.	J&J Log and Lumber Corp. (2)	Dover Plains, N.Y.	32,000,000	36,000,000
216.	Owens-Hurst Lumber (1)	Eureka, Mont.	19,765,607	35,393,508
217.	Pyramid Mountain Lumber Inc. (1)	Seeley Lake, Mont.	25,475,000	35,347,000
218.	Drew Sawmills Ltd. (2)	Malakwa, B.C.	47,862,000	35,016,000
219.	Decker Lake Forest Products Ltd. (1)	Burns Lake, B.C.	35,000,000	35,000,000
220.	Friesen Lumber Co. (1)	Saint Helens, Ore.	34,000,000	35,000,000
221.	Allen Logging Co. (1)	Forks, Wash.	32,485,760	34,626,436
222.	Nagel Lumber Co. Inc.	Land O' Lakes, Wis.	23,415,000	34,489,108
223.	T. R. Miller Mill Co. Inc. (2)	Brewton, Ala.	30,000,000	34,000,000
224.	Connor Forest Industries Inc. (4)	Wausau, Wis.	30,000,000	34,000,000
225.	Scierie Landrienne Inc. (1)	Landrienne, Que.	33,000,000	34,000,000
226.	Charles Ingram Lumber Co. Inc. (2)	Florence, S.C.	31,007,000	33,770,000
227.	SDS Lumber Co. (2)	Bingen, Wash.	27,514,000	33,738,000
228.	D. R. Johnson Lumber Co. (1)	Riddle, Ore.	28,470,000	33,662,000
229.	Keadle Lumber Enterprises (2)	Thomaston, Ga.	30,235,102	32,563,106
230.	Lulumco Inc. (1)	Luceville, Que.	30,615,046	32,560,791
231.	Layman Lumber Co. (1)	Naches, Wash.	25,500,000	32,506,000
232.	Cone Lumber Co. (1)	Goshen, Ore.	28,339,000	32,253,000
233.	Chasse' Inc. (1)	Sainte-Marie Beauce, Que.	20,311,474	32,208,642
234.	Snider Lumber Products Co. (2)	Turlock, Calif.	31,042,090	32,143,843
235.	Columbus Lumber (1)	Brookhaven, Miss.	30,000,000	32,000,000
236.	Anthony Forest Products Co. (2)	El Dorado, Ark.	32,000,000	32,000,000
237.	Juniper Lumber Co. Ltd. (2)	Juniper, N.B.	18,400,000	31,600,000
238.	Beaver Lumber Co. (1)	Clatskanie, Ore.	17,199,633	31,392,602
239.	Griffin Lumber Co. (3)	Cordele, Ga.	31,430,952	31,391,398
240.	Cliffs Forest Products Co. (1)	Iron Mountain, Mich.	26,319,000	30,689,000
241.	Freemont Sawmill Co. (2)	Lakeview, Ore.	28,871,435	30,307,926
242.	Marcel Lauzon Inc. (1)	East Hereford, Que.	28,000,000	30,000,000
243.	Martin Timber Co. Inc. (1)	Castor, La.	24,000,000	30,000,000
244.	Kamiah Mills (1)	Kamiah, Idaho	25,483,304	29,742,679
245.	Grant Lumber Co. Ltd. (1)	Elk Lake, Ont.	31,869,536	29,738,756
246.	Hi-Ridge Lumber Co. (1)	Yreka, Calif.	21,250,000	29,111,000
247.	Kitchens Bros. Manufacturing Co. Inc. (3)	Utica, Miss.	22,985,136	28,658,751
248.	Guy Bennett Lumber Co. (1)	Clarkston, Wash.	27,389,081	28,579,023
249.	North Florida Lumber Co. Inc. (1)	Graceville, Fla.	—	28,250,000
250.	Gray Lumber Co. (1)	Waverly, Va.	25,544,401	28,179,925
251.	Inter-State Lumber Co. Inc. (2)	Kingwood, W. Va.	26,000,000	28,000,000
252.	H. V. and T. G. Thompson Lumber (1)	Ailey, Ga.	26,200,000	26,800,000
253.	Big Valley Lumber Co. (1)	Bieber, Calif.	16,680,970	26,109,117
254.	P. E. Barnes Lumber Co. (4)	Hamburg, Ark.	19,177,911	26,030,270
255.	Clemons Bros. Lumber Co. (1)	Amite, La.	26,000,000	26,000,000
256.	Superior Lumber Co. (1)	Glendale, Ore.	18,800,000	26,000,000
257.	A&L Lafreniere Lumber Ltd. (1)	Chapleau, Ont.	19,282,000	25,576,000
258.	Walker Bros. Lumber Co. Inc. (1)	Huntsville, Texas	20,000,000	25,000,000
259.	W. M. Sheppard Lumber Co. Inc. (1)	Brooklet, Ga.	20,000,000	25,000,000
260.	Williams Lumber Co. Inc. (1)	Rocky Mount, N.C.	—	25,000,000
261.	North Anson Reel Co. (1)	North Anson, Maine	30,000,000	25,000,000
262.	Murray Bros. Lumber Ltd. (1)	Madawaska, Ont.	25,000,000	25,000,000
263.	Manitoba Forestry Resources Ltd. (1)	The Pas, Man.	36,000,000	25,000,000
264.	J. E. Martel and Sons Lumber (1)	Chapleau, Ont.	20,000,000	25,000,000

Leading lumber producers, U.S. and Canada

	Company & number of mills	Headquarters	'82 Output	'83 Output
265.	Delta Cedar Products (1)	Delta, B.C.	25,000,000	25,000,000
266.	Averitt Lumber Co. (3)	Clarksville, Tenn.	20,000,000	25,000,000
267.	Tangfeldt Wood Products (1)	Eugene, Ore.	21,800,000	24,500,000
268.	W. W. Lumber Co. (1)	Cottage Grove, Ore.	24,000,000	24,000,000
269.	Rajala Lumber Co. (4)	Deer River, Minn.	22,000,000	24,000,000
270.	C. M. Tucker Lumber Corp. (1)	Pageland, S.C.	24,000,000	24,000,000
271.	Greensboro Lumber Co. (2)	Greensboro, Ga.	24,000,000	24,000,000
272.	Cedar Lumber Inc. (2)	Mill City, Ore.	24,092,000	23,868,000
273.	Moore Mill and Lumber Co. (2)	Bandon, Ore.	9,551,249	23,404,094
274.	Crane Mills (1)	Corning, Calif.	24,567,028	23,230,612
275.	Suwannee Lumber Manufacturing Co. (1)	Cross City, Fla.	17,323,919	22,904,046
276.	Ramsey Lumber Co. (2)	Suffolk, Va.	23,535,000	22,695,000
277.	McNamara and Peepe Lumber Co. (1)	Crescent City, Calif.	21,251,000	22,575,000
278.	Madawaska Lumber (1)	Carleton, Que.	24,100,000	22,250,000
279.	M. C. Dixon Lumber Co. Inc. (1)	Eufaula, Ala.	12,722,000	22,116,000
280.	Varn Wood Products Co. (1)	Hoboken, Ga.	15,518,000	21,574,844
281.	Broughton Lumber Co. (1)	Underwood, Wash.	16,528,000	21,378,000
282.	Newaygo Forest Products Ltd. (1)	Hearst, Ont.	19,421,962	21,287,468
283.	East Alabama Lumber Co. (1)	LaFayette, Ala.	11,450,000	20,900,000
284.	Arcata Redwood Co. (1)	Arcata, Calif.	21,295,000	20,591,000
285.	William Milne and Sons Ltd. (1)	Temagami, Ont.	16,200,000	20,200,000
286.	Cambria Forest Industries (1)	Newcastle, Wyo.	19,010,000	20,140,000
287.	Gulf States Paper Corp. (1)	Tuscaloosa, Ala.	20,000,000	20,000,000
288.	Hinchcliff Products Co. (2)	Strongsville, Ohio	15,000,000	20,000,000
289.	Dudley Lumber Co. (1)	Salem, Ala.	18,000,000	20,000,000
290.	Cascade Locks Lumber Co. (1)	Cascade Locks, Ore.	18,000,000	20,000,000
291.	Calandor Pine Corp. (1)	Cleveland, Ohio	18,000,000	20,000,000
292.	Cersosimo Lumber Co. Inc. (3)	Brattleboro, Vt.	18,000,000	20,000,000
293.	Cuddeback Lumber Co. (1)	Eugene, Ore.	13,500,000	20,000,000
294.	Mebane Lumber Co. (1)	Mebane, N.C.	—	20,000,000
295.	Potomac Supply Corp. (1)	Kinsale, Va.	20,000,000	20,000,000
296.	Kimball International (4)	Jasper, Ind.	18,250,000	19,750,000
297.	Spray Lake Sawmills (1980) Ltd. (1)	Cochrane, Alta.	12,457,399	19,737,465
298.	Hull-Oakes Lumber Co. (1)	Monroe, Ore.	16,673,000	19,586,000
299.	Sundance Lumber Co. Inc. (1)	Springfield, Ore.	16,025,800	19,556,000
300.	St. Johns Forest Products Co. (1)	Portland, Ore.	5,574,284	19,520,125
301.	Neiman Sawmill Inc. (1)	Hulett, Wyo.	14,280,000	19,473,500
302.	Doyle Lumber Inc. (1)	Martinsville, Va.	16,190,000	19,403,000
303.	McCully and Soy Ltd. (1)	Truro, N.S.	3,149,149	19,232,846
304.	H. G. Toler and Son Lumber Co. Inc. (1)	Leola, Ark.	18,502,131	19,021,121
305.	Wade Wood Inc. (1)	Wade, N.C.	17,000,000	19,000,000
306.	Harris Pine Mills (1)	Pendleton, Ore.	21,000,000	19,000,000
307.	Seattle-Snohomish Mill (1)	Snohomish, Wash.	18,000,000	18,900,000
308.	Paxport Mills Inc. (1)	Tacoma, Wash.	17,693,000	18,879,000
309.	Beadles Lumber Co. (1)	Moultrie, Ga.	14,800,000	18,750,000
310.	J. V. Wells Inc. (1)	Sharptown, Md.	18,688,444	18,585,674
311.	Clermond Hamel Ltd. (1)	Saint Ephrem De Beauce, Que.	—	18,045,000
312.	H. W. Culp Lumber Co. (1)	New London, N.C.	16,000,000	18,000,000
313.	T&S Hardwoods Inc. (1)	Milledgeville, Ga.	9,000,000	18,000,000
314.	Zip-O-Log Mills Inc. (1)	Eugene, Ore.	15,000,000	18,000,000
315.	T.J. Moss Lumber Co. Inc. (3)	Rogersville, Ala.	13,000,000	18,000,000
316.	Lakeview Lumber Products Co. (1)	Lakeview, Ore.	16,840,000	17,534,000
317.	Keller Lumber Co. (1)	Roseburg, Ore.	16,652,699	17,495,769
318.	Flippo Lumber Corp. (1)	Doswell, Va.	15,000,000	17,464,000
319.	McShan Lumber Co. (1)	McShan, Ala.	15,500,000	17,200,000
320.	Forest Products Inc. (1)	Corbin, Ky.	15,000,000	17,000,000
321.	A. J. D. Forest Products Inc. (1)	Grayling, Mich.	15,000,000	17,000,000
322.	Hutchins Lumber Inc. (1)	Weippe, Idaho	12,142,264	16,986,301
323.	Consolidated Pine Inc. (1)	Prineville, Ore.	16,216,250	16,898,940
324.	Pacific Studs (1)	Cimarron, N.M.	15,600,000	16,500,000
325.	Herbert Lumber Co. (1)	Riddle, Ore.	14,343,000	16,336,000
326.	Sonoma Pacific Co. (1)	Oakland, Calif.	13,933,000	16,313,000
327.	Claude Howard Lumber Co. (1)	Statesboro, Ga.	12,191,128	16,164,272
328.	Sam Mabry Lumber Co. (1)	Liberty, Miss.	14,000,000	16,000,000
329.	Menominee Tribal Enterprises (1)	Neopit, Wis.	17,000,000	16,000,000
330.	Kitwanga Lumber Co. (1)	Kitwanga, B.C.	12,000,000	16,000,000
331.	Perry Lumber Co. Inc. (1)	Perry, Fla.	12,261,115	15,481,255
332.	Moose River Lumber Co. Inc. (1)	Jackman, Maine	14,547,830	15,400,177
333.	Alton Packaging Corp. (1)	Alton, Ill.	17,904,698	15,139,327
334.	A. B. Carroll Lumber Co. Inc. (1)	Hurtsboro, Ala.	15,000,000	15,000,000
335.	Big Creek Lumber Co. (1)	Davenport, Calif.	15,000,000	15,000,000
336.	Chiloquin Forest Products Inc. (1)	Chiloquin, Ore.	—	15,000,000

	Company & number of mills	Headquarters	'82 Output	'83 Output
337.	Conrad Poulin and Fils Ltd. (1)	Montmagny, Que.	13,500,000	15,000,000
338.	Burt Lumber Co. Inc. (1)	Washington, Ga.	13,000,000	15,000,000
339.	Flodin Lumber and Manufacturing (1)	Plains, Mont.	13,000,000	15,000,000
340.	Newman Lumber Co. Inc. (2)	Woodsville, N.H.	12,000,000	15,000,000
341.	Metcalf Lumber Co. Inc. (1)	Thomasville, Ga.	14,000,000	15,000,000
342.	Precision Pine (1)	Lakeview, Ore.	12,000,000	15,000,000
343.	Pate Lumber Co. Inc. (1)	Carrollton, Ala.	15,000,000	15,000,000
344.	Chesterfield Lumber Co. Inc. (1)	Darlington, S.C.	11,047,084	14,879,074
345.	Collum's Lumber Mill Inc. (1)	Allendale, S.C.	13,000,000	14,500,000
346.	Wood Reels Inc. (1)	Hartselle, Ala.	13,378,000	14,400,000
347.	Trammell Lumber Co. (1)	La Grange, Ga.	8,837,315	14,160,036
348.	Arkansas Oak Flooring Co. (2)	Pine Bluff, Ark.	11,092,220	14,066,691
349.	Carlotta Lumber Co. (2)	Carlotta, Calif.	11,811,000	14,060,000
350.	Dickert Lumber Co Inc. (1)	Newberry, S.C.	14,500,000	14,000,000
351.	Tigerton Lumber Co. (2)	Tigerton, Wis.	13,000,000	14,000,000
352.	Wiergate Lumber Co. Inc. (1)	Wiergate, Texas	14,000,000	14,000,000
353.	Almond Bros. Lumber Co. (1)	Coushatta, La.	11,030,820	13,340,300
354.	Swift Lumber Inc. (1)	Atmore, Ala.	10,600,00	13,300,000
355.	Troy Lumber Co. (2)	Troy, N.C.	11,400,000	13,200,000
356.	Pitt Timber Ltd. (1)	Port Coquitlam, B.C.	13,500,000	13,000,000
357.	Elliot Sawmilling Co. Inc. (1)	Estill, S.C.	12,000,000	13,000,000
358.	C. B. Lumber Co. (1)	Hot Springs, Ark.	7,309,930	13,000,000
359.	Pine Mountain Lumber Co. (1)	Yreka, Calif.	—	12,894,000
360.	Bear Paw Timber Corp. (4)	Fryeburg, Maine	11,600,000	12,800,000
361.	T. W. Kelly Enterprises Inc. (4)	Pittsfield, Mass.	11,867,944	12,672,872
362.	J. W. Jones Lumber Co. (1)	Elizabeth City, N.C.	10,474,348	12,618,535
363.	Jackson Sawmill Co. Inc. (1)	Jackson, Ala.	11,000,000	12,500,000
364.	Fiest Hardwoods Inc. (1)	Newton Falls, Ohio	11,500,000	12,500,000
365.	H. S. Hofler and Son Lumber Co. (1)	Sunbury, N.C.	11,224,201	12,045,187
366.	W. L. Sherrod Lumber Co. Inc. (1)	Greenville, Fla.	12,000,000	12,000,000
367.	Sagebrush Sales Co. (1)	Albuquerque, N.M.	15,000,000	12,000,000
368.	Ocala Lumber Sales Co. (1)	Ocala, Fla.	12,000,000	12,000,000
369.	Lytton Lumber Ltd. (1)	Lytton, B.C.	12,000,000	12,000,000
370.	J. M. Jones Lumber Co. Inc. (1)	Natchez, Miss.	12,000,000	12,000,000
371.	Hubert Moore Lumber Co. Inc. (1)	Alapaha, Ga.	12,000,000	12,000,000
372.	Fred Netterville Lumber Co. (1)	Woodville, Miss.	12,000,000	12,000,000
373.	Hamel Forest Products (4)	Vesper, Wis.	10,985,822	11,728,126
374.	McRae Mills Ltd. (1)	Whitney, Ont.	14,000,000	11,600,000
375.	Timberline Lumber Inc. (1)	Weippe, Idaho	13,867,855	11,574,650
376.	Semac Industries Inc. (4)	Millersburg, Ohio	10,650,000	11,375,000
377.	East Perry Lumber Co. (1)	Frohna, Mo.	10,027,553	11,261,157
378.	Umphlett Lumber Co. (1)	Moncks Corner, S.C.	8,064,000	11,100,000
379.	The James MacLaren Industries Inc. (2)	Thurso, Que.	[illegible]000	11,000,000
380.	M. J. Corley and Sons (2)	Lexington, S.C.	[illegible]00	11,000,000
381.	Fleming Lumber Co. (1)	Crestview, Fla.	4,000,000	11,000,000
382.	Parton Lumber Co. (1)	Rutherfordton, N.C.	9,000,000	10,980,000
383.	Toney-Thayer Lumber Co. (2)	Louisburg, N.C.	8,810,627	10,370,758
384.	Copiah County Manufacturing Co.	Hazlehurst, Miss.	8,000,000	10,000,000
385.	Bellerive Ka'n'enda Woods Products (1)	Mont-Laurier, Que.	3,000,000	10,000,000
386.	E. Sondheimer Co. (1)	Sondheimer, La.	8,000,000	10,000,000
387.	United Timber Corp., Highland Lumber Co. Div. (1)	Dixfield, Maine	9,000,000	10,000,000
388.	Great Western Lumber Co. (1)	Everson, Wash.	7,435,000	9,880,000
389.	Dean Lumber Co. (1)	Gilmer, Texas	9,041,936	9,654,165
390.	Butler Lumber Co. Inc. (1)	Chase City, Va.	—	9,500,000
391.	Mitkof Lumber Co. Inc. (1)	Petersburg, Alaska	14,100,000	9,200,000
392.	Hanna Manufacturing (1)	Winnfield, La.	6,000,000	9,000,000
393.	Koppers Co. Inc., Forest Products Group (1)	Pittsburgh, Pa.	8,500,000	8,500,000
394.	Indiana Wood Products Inc. (1)	Middlebury, Ind.	6,719,821	8,337,276
395.	Aiken Lumber Co. (2)	Aiken, S.C.	7,500,000	8,300,000
396.	Butler Land and Timber Co. Inc. (1)	Chase City, Va.	7,947,000	8,200,000
397.	Atchley Lumber and Supply Inc. (1)	Trinity, Texas	—	8,000,000
398.	Lumbee Timber Co. Inc. (1)	Laurinburg, N.C.	8,000,000	8,000,000
399.	Spruce Products Ltd. (2)	Winnipeg, Man.	8,000,000	8,000,000
400.	W. T. Jones and Sons Inc. (1)	Ruther Glen, Va.	7,500,000	8,000,000
401.	Pruitt Lumber Co. (1)	Louisburg, N.C.	6,814,304	6,623,157
402.	Seaman Timber Co. Inc. (3)	Montevallo, Ala.	6,000,000	6,000,000
403.	Augusta Lumber and Supply Inc. (3)	Staunton, Va.	3,883,000	4,245,251
404.	East Brainerd Lumber Co. Inc. (1)	Chattanooga, Tenn.	4,000,000	4,000,000
405.	L&K Lumber (Northshore) Ltd. (1)	N. Vancouver, B.C.	30,719,000	3,484,000
406.	Johnston and Rhodes Bluestone (1)	East Branch, N.Y.	2,500,000	2,500,000
407.	Aldenville Dimension Wood Products Inc. (1)	Aldenville, Pa.	1,500,000	1,800,000
408.	Pacific Forest Products Inc. (1)	Haines, Alaska	5,753,000	500,000

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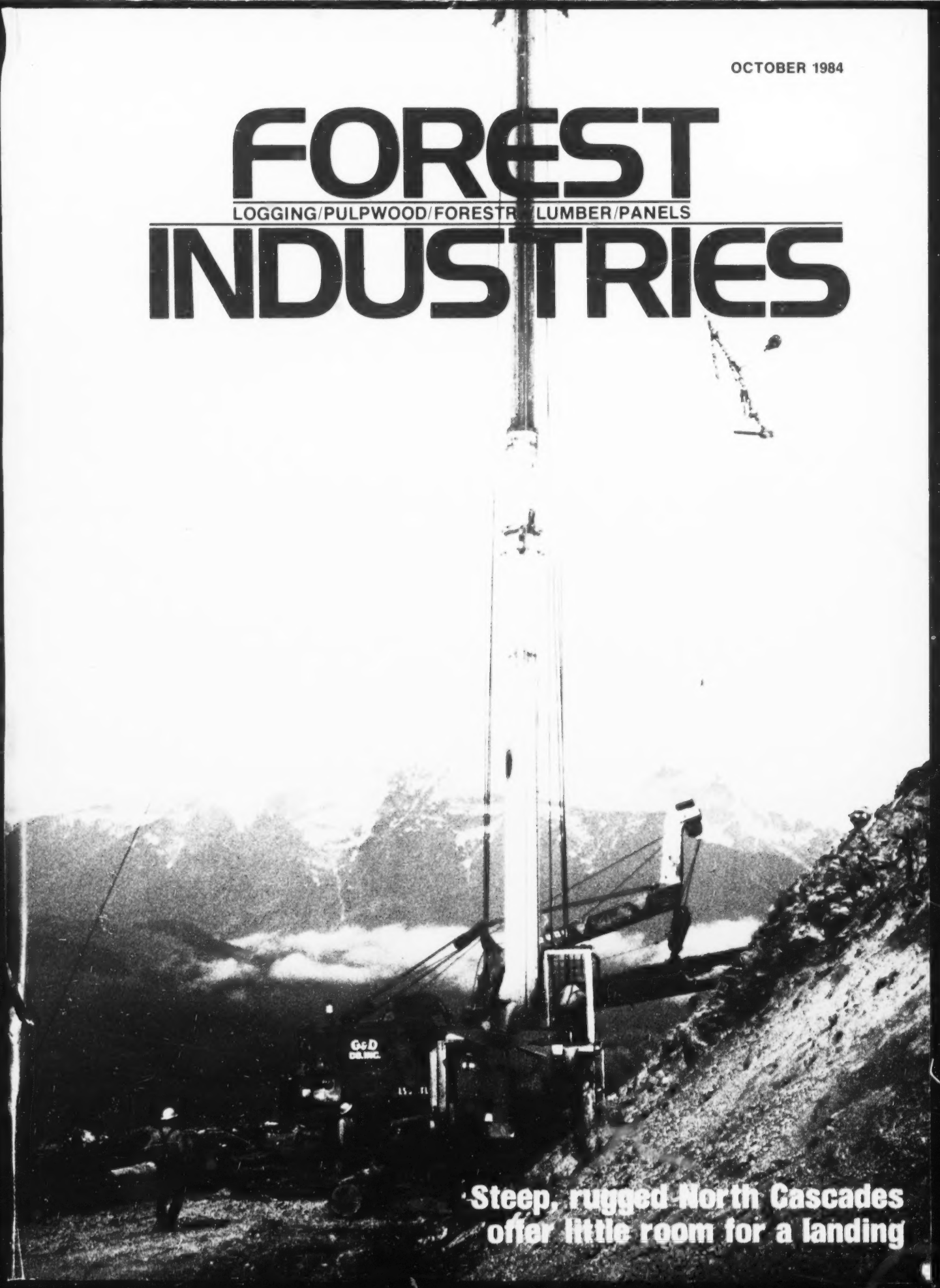
FOREST INDUSTRIES

LOGGING/PULPWOOD/FORESTRY/LUMBER/PANELS



Steep, rugged North Cascades offer little room for a landing

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Getting lumber from mill to market is becoming an increasingly complex job, especially in light of changes in the ways lumber is sold and used

Sawmillers can profit by knowing market trends

By Stuart U. Rich

Moscow, Idaho

At both the wholesale and retail levels, major trends are reshaping the ways lumber flows from the mill to the final user in the domestic market. Sawmillers who understand these trends can take advantage of them.

The information presented here is based on interviews with sales and marketing executives at the mill, wholesale, and retail levels in various parts of the country over the past several years. It's also based on interviews by six of my graduate students in our forest industries Master of Business Administration program at the University of Oregon.

These students recently interviewed a representative sample of lumber retailers in the Eugene-Springfield area and in eight of the smaller towns in the Willamette Valley and on the Oregon Coast. Secondary sources of material have also been analyzed, including government and trade association figures and reports, and articles and forecasts in both trade journals and general business publications.

Five uses dominate market

A look at the total consumption of softwood in the U.S. shows five major market segments (see table). At 37% of consumption last year, conventionally constructed homes constitute the largest segment of the lumber market.

Housing starts totaled close to 1.7 million. Single-family homes accounted for 78% of the total, and multi-family, 22%. Incidentally, in 1982, when housing starts were only slightly over 1 million, conventionally-built homes constituted 28% rather than 37% of lumber consumption.

Factory-built housing includes both mobile homes and modular homes. Modular homes are those made of various-sized modules which are pre-built in wall units, floor panels, and roof trusses programmed for on-site assembly. Such homes are also likely to use pre-assembled plumbing trees, heating plants, and kitchen units.

Although constituting only 5% of the domestic market for lumber in 1983, factory-built housing seems likely to increase more rapidly in the future. There are two primary reasons for this.

Affordability is first. For example, the average price of a mobile home in early 1984 was $21,800, compared with an average conventional single-family new house price of $93,900, which by mid-1984 had become about $100,000. It is also estimated that the average U.S. family's monthly home payment totals one-third of its income, and that about 70% of today's households cannot afford an 80% mortgage on an average-priced conventional home.

Big-builder importance grows

The second factor favoring the increase in factory-built housing is the increasing importance of the big builders. It was the medium-sized builders who were hardest hit during the recent recessions. The small custom builders were able to switch to the repair and remodeling market when mortgage money became expensive and scarce.

The well-capitalized big builders increased their market share by tapping the national capital markets for low-cost financing for their customers. They could trim construction costs by "downsizing": building smaller homes and using more factory-assembled units.

Of significance to both lumber mills and lumber wholesalers are the special needs of the manufactured housing industry. These producers have production deadlines to meet and do not stock large forest products inventories. Thus, they require on-time deliveries, both direct mill shipments and truckloads from close-in distribution yards. These shipments often call for special items such as 2x3 8-ft ⅝-in. studs and 2x6 12-ft floor joists.

Non-residential construction, constituting 18% of the total market, consists of low and medium-height commercial, industrial, agricultural, and institutional buildings, plus public utilities and highway construction.

The repair and remodeling market, accounting for 22% of lumber consumption in 1983, has shown remarkable stability since 1970. In contrast with the ups and downs of the residential construction market, it has averaged about 20% of the total during this period.

The three major categories within the repair/remodel market are additions and alterations; upkeep (or maintenance and repair); and rehabilitation and renovation. Current estimates indicate that the do-it-yourselfers represent about half of the repair and remodeling market. Professional remodelers and contractors make up the other half, although the contractors use somewhat more lumber than do-it-yourselfers.

A growth market for repairs

This market, less sensitive to interest rate changes than new residential construction, shows promise of continued growth. This was highlighted by Census Bureau data for 1980 which showed that the total housing stock of the nation was 92 million dwelling units. About 45 million of them were single-family houses 20 or more years old—prime candidates for upkeep and improvement.

Finally, industrial uses for wood constituted 18% of the total 1983 market. These uses fall in three major categories: products manufactured for resale, such as furniture, fixtures, signs, and transportation equipment; materials handling, such as pallets, crates, and bins; and plant repair and maintenance, such as shelves, partitions and remodeled offices. With the continued strong economy, demand in all of these segments should increase.

Channels for distributing plywood and other panel products are basically the same as those for lumber. Mills sell to different types of wholesalers and brokers, who in turn sell to dealers who specialize in selling to builders or to the general public

Wholesalers [illegible] brokers

Merchant wholesalers are independent firms which purchase from manufacturers for resale to dea[illegible] retailers for industrial users [illegible] title to the goods they purc[illegible] may or may not carry stock.

Manufacturers' sales branches and sales offices are establishments maintained by the manufacturers for market-

ing their products at the wholesale level. Captive wholesale distribution centers are also included in this category.

Agents, brokers and commission merchants are rather like the merchant wholesalers, except that they do not take title to the products. They perform only the sales function, and typically do not carry stock.

Cooperative buying offices are maintained by a group of dealers or retailers who pool orders so that they can buy in quantity from mills and drop-ship partial carloads to the various yard locations of the dealer-members.

Types of retailers

Construction supply dealers carry large inventories of bulky materials such as lumber, plywood, hardboard and gypsum, which they sell at near-wholesale prices to big-volume builders and contractors. These dealers may be involved in the manufacture of millwork items, such as cabinets and window frames, as well as roof trusses and wall panels.

Dealer-builders sell building materials and also engage in either custom or speculative building of homes, farm buildings, major room additions, and general remodeling, using either their own or subcontracted crews.

Home improvement centers, also called home centers, are dealers or retailers who sell, chiefly to homeowners, a wide range of building materials and other products used for adding to, repairing, renovating, and maintaining the home.

Full service dealers carry a complete line of building products, including appliances and kitchen cabinets, and serve both homeowners and builders. Service is emphasized, including design, cost estimating, and financing for small home builders.

Mass merchandisers are retail institutions from outside the building materials field, including department stores. They may have home improvement or building supply departments in their regular stores, or may have chains of separate building supply centers.

How many wholesalers and how many retailers are we talking about? The most recent Commerce Department figure (1982) for lumber, plywood and millwork wholesalers (SIC5031) was 6928. This figure includes all of the wholesaler types mentioned except the cooperative buying offices, which have come to prominence only recently.

As for retailers, the 1982 figure for lumber and other building materials dealers (SIC521) was 24,940. This figure includes all the retailer types except the mass merchandisers.

Changes affecting distribution

Some significant changes are affecting these channels of distribution.

The *high cost of working capital* has caused retail building materials dealers to push the inventory-carrying function back to the wholesale level. The number of stocking wholesalers is increasing because retailers prefer to buy in smaller amounts closer to their time of sale. They buy from nearby stocking distributors, who are either independent merchant wholesalers or large manufacturer-owned distribution branches.

Lumber mills selling to the large distribution yards of these two types of channel members ship chiefly straight carloads of lumber. The stocking wholesalers are providing more services to the retailers than they used to, including breaking of unit loads, offering specified lengths, more frequent delivery, and more use of mixed trucks which make many stops on one haul.

The next trend, *decline in non-stocking wholesalers* (also known as "office wholesalers"), has been caused by several factors. First is the shift of the inventory-carrying function back up to the wholesale level, as well as the desire by retailers for more wholesaler services.

Transit selling declines

The second factor is the decline in transit selling, an important part of the business of office wholesalers. This decline has been caused by the fact that the new rail rate structure has been designed around direct shipments.

In addition, demurrage and various transit charges for milling in transit, sorting in transit, diversion, and reconsignment have doubled or tripled in the last eight years. The third factor is the decreased dependence of the mills on the non-stocking office wholesaler to move their production of volume items.

The larger manufacturers may sell through their own distribution branches or through the retailers' cooperative buying offices. The smaller mills, traditionally dependent on the office wholesaler, have simply declined in number. For example, according to Bureau of Census figures, the number of sawmills and planing mills in the country decreased from 12,189 in 1963 to 7544 in 1977, and to 5881 in 1981, the most recent figure available.

The more profitable of the office wholesalers remaining today are those who emphasize special orders of non-commodity items aimed particularly at industrial users. Examples of such items produced by mills in the U.S. Inland Region are Douglas fir and larch machine-stress-rated lumber for glulam stock, tongue-and-groove decking and scaffolding, and ponderosa pine uppers for the furniture market, with the lower grades going to wood treaters.

Specialties boost profits

Specialty goods such as these, sold through office wholesalers, have enabled some of the Inland mills to remain profitable in the face of the U.S. market inroads made by the spruce-pine-fir commodity items from the Canadian mills.

The third trend, *increase in manufacturers' sales branches*, is part of an overall pattern of forward integration by the major lumber producers. Today, 15 of the top 20 U.S. lumber producers have captive wholesale distribution centers.

There are a number of reasons behind this trend. Some end-market-oriented firms, producing finished paneling and other consumer-type products on which they spend large sums for advertising, have moved into wholesale and even retail distribution in order to get closer to the final users and improve the information flow between producer and ultimate consumer.

This is particularly important when seeking to gain market acceptance for new products. Other firms, which produce mainly commodity items, and are strongly timber-resource oriented, view their move into wholesale distribution as a way to get maximum return from the firm's timber assets. This relationship between timber assets and captive distribution of wood products is well illustrated by one leading company.

It states its overall corporate mission as being "a resource company which grows and harvests trees to make and sell wood products." It then goes on to describe its marketing and distribution strategy as one designed to "provide an optimum flow and mix of orders for maximum conversion efficiency and utilization of timber resources."

Similarly, another company with a strong nationwide system of distribution centers views its marketing strategy as devising a logistics system which will

U.S. softwood lumber consumption (1983)
(million bd ft)

Residential construction (conventional)		
Single-family (78%)	10,215	
Multi-family (22%)	2,884	
Total	13,099	(37%)
Residential construction (factory-built)		
Modular (62%)	1,205	
Mobile homes (38%)	745	
Total	1,950	(5%)
Non-residential construc.	6,370	(18%)
Repair and remodeling		
Contractor (73%)	5,840	
Do-it-yourself (27%)	2,160	
Total	8,000	(22%)
Industrial uses	6,510	(18%)
Grand total	35,929	(100%)

Trends at the wholesaler level

1. Increase in stocking wholesalers.
2. Decline in non-stocking (office) wholesalers.
3. Increase in manufacturers' sales branches.
4. Increase in remanufacturing wholesalers.
5. Increase in reloading operations.
6. Increase in cooperative buying offices.
7. Decline in agents, brokers and commission merchants.
8. Increased importance of traffic management.

"generate volume sales and achieve cost-effectiveness in delivering the products." In other words, these companies consider their captive distribution outlets as part of a total "materials flow system" from forests to end users.

More services offered

These manufacturer-owned distribution centers have greatly expanded the services they offer to retailers.

In our recent survey in the Eugene-Springfield area, retailers mentioned the following services as being available to them when they bought from the distribution centers: willingness to quote firm prices over a period of time to large customers; willingness to precision end-trim, regrade material, custom resaw, and break units; willingness and ability to make trusses, to prehang doors, handle specialty items and millwork; and willingness to carry construction-related non-wood products such as gypsum, roofing, and insulation.

There appeared to be a big increase in local retailers' use of manufacturer-owned distribution branches during the recent recession.

The fourth trend, *increase in remanufacturing wholesalers*, has resulted from the emphasis on maximum utilization of increasingly scarce or expensive raw materials, such as cedar, plus the increased importance of the repair/remodel, light commercial construction and industrial markets.

Examples of remanufactured items include channel siding, cedar paneling, and subflooring for decks above exposed glulam beams.

Some wholesalers, such as small office wholesalers, although not adding remanufacturing facilities themselves, have made cooperative arrangements with small reman plants. Such a wholesaler-reman team might produce and sell specialties, with the wholesaler acting as both a source of lumber supply for the remanufacturer and as a seller of the output of the reman plant.

The fifth trend, *increase in reloading operations*, is evidenced by the growing number of mixed car shipments. It is related to the increase in the number of wholesale distribution yards located at considerable distance from the mills in order to be close to retailers in major market areas.

The reloading function may be performed by the producers with their own wholesale branches, by the independent wholesalers, or by companies engaged primarily in the reloading business itself. Of increasing importance among reloading companies are the border point transit yards in eastern Canada.

These yards receive railroad shipments of spruce-pine-fir dimension lumber from western Canada, then reload the boards onto trucks in small-volume mixed loads, with specific tallies, to match the short-lead-time inventory needs of dealers in eastern Canada and in the U.S. Midwest and Northeast.

The sixth trend, *increase in cooperative buying offices* (sometimes referred to as "programmed wholesalers"), has been in response to the needs of dealers who emphasize do-it-yourselfers, rather than contractor-based dealers.

These cooperative groups are retailer-owned, engage in volume buying from the mills, and offer a wide range of promotional and management services to their members. Smaller chains and independents can pool their bargaining power to get lower prices through quantity discounts.

The seventh trend, *decline in agents, brokers, and commission merchants*, has been caused by the increasing reliance of retailers on nearby stocking wholesalers, both independent and manufacturer-owned, as noted earlier. For lumber needs that cannot be served by these local wholesalers, the smaller retailers are turning from brokers to buying co-ops.

Rail deregulation's effects

An eighth trend, *increased importance of traffic management*, has been caused by deregulation, consolidation of railroad lines, and increased competition between different lumber species from different producing regions.

In an effort to recapture some of the forest products traffic lost to trucks and Canadian rail lines, U.S. carriers have offered special single-line rates, with minimum-sized shipment requirements for western lumber bound for certain destinations in the Midwest and South.

Reload centers, as described earlier, have grown up around these destinations, from which lumber is distributed to dealers by truck. Shipments from the West may also go on a Canadian line to a destination such as Buffalo, N.Y., then be rebilled at a special rate on a U.S. line down to a reload center, say, in Atlanta, Ga., and then go by truck to dealers.

Sharp negotiations for more favorable transportation rates have helped some western producers in their battle to retain their eastern U.S. markets being invaded by Canadian spruce-pine-fir and southern pine. This has resulted in traffic departments playing an increasingly important role in the operations of the western wholesalers. In fact, on many sales, the traffic specialist's ability to obtain the best routings and freight rates has meant the difference between profit and loss.

Trends at the retailer level

The first trend in the retail business, *increase in home improvement centers*, is the response of dealers to the increasing importance of the repair and remodeling market described earlier. To help dealers serve this market, a number of studies have been made of what the home improvement customers expect from the building materials dealers.

The major factors, listed in order, which attract them to particular stores are: service, quality, and selection of merchandise; prices consistent with the service and quality offered; and the general layout of the store, including the way the merchandise is presented.

The merchandise offered by the typical home improvement center includes dry lumber, priced by the piece, in shorter, pre-cut lengths of 3 to 7 ft and displayed on the sales floor.

The second trend, *increase in full service dealers*, refers to the increasing number of retailers who serve both homeowners and builders. While the requirements of the two types of customers are somewhat different in terms of size of sale, type of assistance needed from sales clerks, extension of credit, and breadth of product line, most of these full service dealers (often called "building materials centers" today) can provide additional benefits to their customers as a result of this dual marketing strategy.

The retail customer likes to know that the same materials the professional uses are available for his project. The contractor knows that the building materials center, with its display of a wide range of finishing hardware, light fixtures, and wall coverings, can make it simpler to "customize" a house or re-

modeling project for the prospective owner. New product demonstrations, more extensive product displays, and manufacturers' information "fairs" benefit contractors and consumers.

Keeping contractor-customers

In spite of these synergistic effects, however, there are a number of measures which the more-successful full service dealers, as well as some home improvement centers, have taken to avoid alienating their old contractor customers when they have expanded their operations to serve the retail consumer business.

Separate store entrances, parking spaces, and service desks are provided. Near the contractor service desk may also be a dispatch desk to expedite the loading of the contractor's truck or the delivery of large purchases to the jobsite. A special credit staff may be available, since the contractor typically buys on credit, while the retail consumer often pays cash at a separate checkout counter. Because he buys in larger volume, the contractor often gets a 10% discount on all his purchases. Often the two operations will be headed by different persons: a retail store manager and a sales manager for contractors.

The third trend is *decline in construction supply dealers.* A major reason for this trend is that many of the firms that used to cater entirely to contractors have added retail operations to serve the do-it-yourself homeowners.

In other words, they have become full service dealers or home improvement centers, as just described. Those that have remained construction supply dealers differ from the full service dealers and the home improvement centers in several respects. They carry a narrower product line, sell in larger volume at a lower markup, buy more of their materials direct from the mill, have less investment in showroom and displays, spend less on advertising, have fewer personnel per dollar of sales, and have a higher stock turnover rate.

In the Eugene-Springfield area in 1983, the construction supply dealers averaged seven turns per year, compared with five turns for the full service dealers and four turns for the home improvement centers. The majority of lumber sold at the retail level in this area went through the construction supply dealers, whereas the majority of plywood and panel products went through the full service dealers and the home improvement centers.

'Combination' dealers increase

The fourth trend, *increase in combination-type dealers,* has already been suggested in the discussion of the first three trends, where we saw contractor-oriented dealers expanding their businesses to serve the homeowners.

Besides the construction supply dealer-home improvement center combination, there are also some dealer-builder-home center types of retailers. In the smaller towns in our study, we sometimes found even greater overlap between types of retailers.

For example, one retailer we interviewed normally did 50% of his sales to consumers and 50% to contractors. But when demand was slack, or inventories had built up, this retailer built homes and farm buildings. In the Eugene-Springfield area there were also a number of wholesaler-retailer combinations, such as a retailer who served the local market, but had a backroom subsidiary which operated an office wholesale operation on a nationwide basis.

Another type of combination was a stocking wholesaler, either independent or manufacturer-owned, who also sold building products at retail to both contractors and homeowners.

The final trend, *decline in mill-direct sales to retailers,* has been caused by the following factors: increase in home improvement centers which purchase from nearby stocking wholesalers; increase in sales by the mills through their own field sales branches and distribution centers; and the increasing use by retailers of cooperative buying offices.

Who are successful distributors?

The recent recession has provided a good test of the efficiency of the many types of wholesalers and retailers in serving these markets.

Quite a number have fallen by the wayside in recent years, but others have survived and some have prospered, despite the fact that housing starts in 1982 reached their lowest point in the post-World War II period. Among the survivors, the more profitable firms at both the wholesaler and the retailer levels shared certain characteristics of effective distribution performance.

The first characteristic, *a clear concept of the company's business,* was based on a size-up of the company's strengths and weaknesses, an assessment of local competition, plus an awareness of current trends in market demand and distribution methods.

As a result of careful study of these three factors, one office wholesaler was able to carve out a profitable market niche in cedar siding and cedar specialties in light commercial construction. This wholesaler noticed that in certain communities in certain parts of the country, there were an increasing number of offices, medical clinics, and other low-rise commercial buildings being located in residential areas.

To make these buildings blend in with the surrounding homes, the architects and builders were trying to give them a rustic look, and had become interested in using cedar siding and cedar paneling. Through his personal contact with architects, builders, and dealers in these areas, the wholesaler was able to develop a good business in cedar.

Serve your customers

The second characteristic of effective distribution performance was *attention to customer service.* The example just cited illustrates this.

Many wholesalers whom we have interviewed stated that a major reason for their survival during the recent recession was their ability to maintain a loyal clientele. Their dealer-customers, in turn, stated that a major reason for staying with a particular wholesaler was dependable service.

The third factor in effective performance was *inventory control.* Control meant close attention to the turnover rate of all items stocked, and only carrying those items with a high rate of turnover, or a high profit margin that could justify a low number of turns.

Credit control was another key factor in staying alive during the recession. Many of the firms that went under were carrying too many large customers who either didn't pay, or went under themselves. The example of Wickes Corp. is well known.

The fifth characteristic, *sales forecasting,* is related both to customer service and to inventory control. Having stock on hand for prompt shipment when needed, yet avoiding excess inventory to keep the turnover rate up, obviously requires good forecasting of the rate of demand for various items.

A final characteristic of the successful firms over the long term was *financial planning* to maximize the turnover of capital invested.

Use cash efficiently

A basic requirement here is the efficient use of cash so that current needs can be met without tying up idle funds that might be invested in the business, or without having to resort to excessive borrowing to tide over peak seasonal needs. A simple way of budgeting cash needs is through a continually updated cash receipts/disbursements forecast.

This includes keeping careful track of the turnover of accounts receivable and merchandise inventory, since the longer customers take to pay, or the more slow-moving inventory there is on hand, the lower is the turnover of capital invested in the business and hence the lower the rate of return. ■

DR. RICH is a professor of marketing and director of the Forest Industries Management Center at the University of Oregon, Eugene. This article is adapted from a talk he gave at the Inland Empire Forest Industries Marketing Conference at the University of Idaho, Moscow, last August.